

NEW CYATHEACEAE FROM COLOMBIA

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With one plate

RECENT exploration in Colombia gives indication of a far richer fern flora than has previously been known from that country. This is true especially of the tree-ferns (Cyatheaceae), in which perhaps not more than half the specimens of several large collections can be identified with reasonable certainty. To me the more interesting members of the family are those species — mostly small plants — with pinnate-pinnatifid fronds, in habit and general appearance most resembling various species of *Dryopteris* (Polypodiaceae), and I have previously published descriptions of nearly a dozen from tropical America as new. Of the four additional species here described three are of the sort mentioned, with pinnate-pinnatifid fronds. The fourth, *Alsophila mollicula*, is quite unlike these in having the blades fully bipinnate, the secondary pinnae deeply pinnatifid; it is not approached by any of the diminutive tropical American species thus far known.

Cyathea rupestris sp. nov.

Caudex erectus, fortasse 10–12 cm. longus (pars 6 cm. longa adest), 1.5–2 cm. diam., apice et inter cicatrices rotundas ca. 5 mm. diam. appresso-paleaceus, basi crasse radicosus; paleae subdeltoidae, 2–3 mm. longae, 1–1.7 mm. latae, apice obtusae vel subacutae, basi subcordata affixae, parte media castaneae, densae nitidaeque, marginibus latis cinnamomeis teneris laxe et varie fimbriatis. Folia plura, patentia, 40 cm. longa; stipites ca. 5 cm. longi, 3–4 mm. diam., atropurpurei, inermes, basi appresso-paleacei; lamineae lanceolatae, ca. 35 cm. longae, 10–11 cm. latae, acuminatae, pinnato-pinnatifidae, rhachi atropurpurea, infra nuda et glabrescente, supra crebre brunneo-hispida et paleis linearibus laxis pallidis tenuibus instructa; pinnae majores ca. 20-jugae, sessiles, inferiores oppositiae et plus minusve deflexae, mediales suboppositae, patentes, anguste oblongae, acuminatae, 5–6 cm. longae, 11–14 mm. latae, profunde pinnatifidae (pleraeque basi pinnatisectae), subcoriaceae, supra costa hispida excepta glabrae, infra costis et costulis pilis brunneis rigidis paucis praeditae; segmenta ca. 12-juga, oblonga, subfalcata, 5–7 mm. longa, medio 3–3.5 mm. lata, obtusa vel antice subacuta, marginibus subintegris leviter revolutis, plerumque anguste conjuncta, ala costali utroque latere ca. 1 mm. lata; venae 7- vel 8-jugae, plerumque furcatae, obliquae, infra modice elevatae, cum parenchymate glabrae; sori 3-jugi, basales, contigui, indusiis hemisphaericis, brunnescentibus, membranaceis; sporangia numerosa; paraphyses ut videtur nullae.

TYPE in the U. S. National Herbarium, No. 1,852,149, collected along the Rio Margua, between Junin and Crdoba, region of Sarare, in the Cordillera Oriental, Departamento Norte de Santander, at 920 to 1240 meters elevation, among rocks, November 22, 1941, by J. Cuatrecasas (No. 13396).

In general appearance only *Cyathea rupestris* somewhat recalls *C. Nockii* of Jamaica. That species differs markedly, however, in its heavier caudex and much larger fronds, these fully bipinnate, the vascular parts pale and conspicuously paleaceous throughout.

Hemitelia decorata sp. nov. PLATE I.

Caudex erectus, usque ad 3 m. altus, ca. 3 cm. diam., inermis, inter cicatrices remotas fusco-vernicosus, dense imbricato-paleaceus, paleis lanceolatis, acuminatis, 7–9 mm. longis, 1.5–2 mm. latis, fusco-castaneis, opacis, marginibus anguste ochroleucis subintegris, paleis apice ipso majoribus, usque ad 14 mm. longis, marginibus pallidis multo latioribus. Folia 6–8, rigide adscendentia, 100–110 cm. longa; stipites 10–20 cm. longi, 5–7 mm. diam., ochracei, verrucosi, crebre hispidi (pilis pallide ferrugineis 6–9 mm. longis), ubique dense paleacei, paleis basalibus anguste triangularibus, usque ad 15 mm. longis, medio castaneis, marginibus pallidis latis, paleis sursum laminam versus numerosis, conspicuis, oblongo-lanceolatis, acutis, usque ad 2 cm. longis et 6 mm. latis, flavo-brunneis, lucidis, late imbricatis, subintegris, persistentibus; laminae anguste linearis-ob lanceolatae, abrupte acuminatae, 85–100 cm. longae, 24–30 cm. latae, pinnato-pinnatifidae, rhachi ubique dense hispida sed basi excepta paleis carente; pinnae 35–40-jugae, proximae, patentes (jugae inferiores deflexae), ligulatae, acute vel abrupte acuminatae, 11–15 cm. longae, 2.2–3.2 cm. latae, pinnatifidae, herbaceae, costis supra hirsutis, infra longe hispidis; segmenta 15–20-juga, patentia, proxima, late oblonga, rotundato-obtusa, 9–14 mm. longa, 5–6 mm. lata, leviter (raro profunde) crenata, costulis venisque utrinque laxe hispidis vel hirsutis, parenchymate glabro; venae 6- vel 7(8)-jugae, medio furcatae; sori 4–6-jugi, mediales, rotundi, ca. 1.3 mm. diam.; indusia ampla, profunde saccata, integra, demum 2- vel 3-lobata, brunnescentia; receptaculum magnum, globosum; paraphyses nullae.

TYPE in the U. S. National Herbarium, Nos. 1,852,571–573, collected in forest along the Río Yurumangui, Department of El Valle, altitude 5 to 50 meters, January 28 to February 10, 1944, by J. Cuatrecasas (No. 15737).

The following additional specimens, all in the National Herbarium, have been studied: Córdoba, Dept. El Valle, alt. 80–100 m., in forest, Killip 5257; Rio Cajambre, Dept. El Valle, alt. 5–80 m., in forest, Cuatrecasas 17429; Agua Clara, along highway from Buenaventura to Cali, Dept. El Valle, alt. 100 m., in dense forest, Killip & Cuatrecasas 38914; dense forest south of Rio Condoto, between Quebrada Guarapo and Mandinga, Intendencia del Chocó, alt. 120–180 m., Killip 35192; ridge along Yeracú Valley, Corcovada Region, upper San Juan, Intendencia del Chocó, alt. 200–275 m., Killip 35334.

Hemitelia decorata is apparently not uncommon in the Pacific lowland region of Colombia, having first been brought out by Killip in 1922. The excellent series of specimens cited shows remarkably little variation, although the plants are of various ages, with stems ranging from 30 centimeters to 3 meters tall. The widely imbricate, persistent covering of large, fawn-colored scales upon the stipes is a notable feature, suggesting the desirability of introducing this beautiful plant into cultivation.

Hemitelia pumila sp. nov.

Rhizoma adscendens, 5 cm. longum, 1.5 cm. diam., parte apicali copiose imbricato-paleaceum, deorsum radicosum; paleae linearis-attenuatae, apice

subfiliformes, 5–7 mm. longae, 0.5–0.7 mm. latae, albidulae, concolores, tenerae, subintegrae. Folia plura, adscendentia, ca. 50 cm. longa; stipites 15–18 cm. longi, 1–1.5 mm. diam., sulcati, inermes, brunneo-olivacei, glabri, paleis patentibus albidulis linearibus laxis tenuiter praediti; laminae oblongae, acuminatae, ca. 35 cm. longae, 12–14 cm. latae, pinnato-pinnatifidae, rhachi supra hispidula, subtus glabra; pinnae majores ca. 10-jugae, subremotae, patentes, lineari-oblongae, acutae, 6–7.5 cm. longae, 1.5–2 cm. latae, conspicue petiolulatae (usque ad 7 mm.), grosse pinnatifidae vel inferiores basi superiore pinnatisectae, subtus omnino glabrae, supra costis tenuiter hirtellis; segmenta membranaceo-herbacea, 9- vel 10-juga, pleraque late oblonga, apice rotundata, maxima 6–8 mm. longa, sinu acuto 5–6 mm. lata, et ala costali utroque latere 2–3 mm. lata conjuncta, solum segmentum basale anticum pinnarum inferiorum nonnullarum sessile vel subsessile, ovale, marginibus undulatis vel leviter dentato-crenatis; venae 6-jugae, apicales exceptae ad vel ultra medium furcatae, obliquae, tenues; sori 1–3-jugi, inter se remoti, mediales vel supramediales, plerumque furca venarum siti; indusium parvum, brunnescens, obdeltoides, modice concavum, subintegrum; receptaculum parvum, globosum, paraphysibus numerosissimis elongatis diffuse et irregulariter ramosis onustum.

TYPE in the U. S. National Herbarium, Nos. 1,875,038–9, a unicate collected on the Cerro del Castillo, Upper Apaporis Basin, near confluence of the Ajuju and Macaya, Territorio del Caquetá, at about 540 meters altitude, in wet shady forest, on sandstone, July 27, 1943, by R. E. Schultes (No. 5664).

Although the present species is almost certainly distinct, its proper generic reference is doubtful, if one chooses to maintain the traditional genera of Cyatheae. It might, in fact, almost as well be placed in *Alsophila* as in *Hemitelia*, since the indusium is reduced to a triangular, slightly concave structure scarcely typical of *Hemitelia* and, except for its greater breadth, not very different from the minute vestigial scale that may be observed in several species of *Alsophila*. So far as I know, it is without any very near relatives.

Alsophila mollicula sp. nov.

Rhizoma deest. Folia plura, laxe adscendentia, 55 cm. longa; stipites 15 cm. longi, 2–3 mm. diam., spinis ad 1.5 mm. longis castaneis cylindricis gracilibus instructi, basi comoso-paleacei, paleis filiformibus, leviter flexuosis, 10–15 mm. longis, 0.2–0.3 mm. latis, basi castanea minuta excepta pallide ferrugineis, sursum copiose hispidi, pilis plerumque 5–6 mm. longis, pallide ferrugineis; laminae ovatae, acuminatae, 40 cm. longae, 25 cm. latae, bipinnato-pinnatifidae, rhachi sicut stipite longe hispida, paleis nullis; pinnae ca. 14-jugae, patentes, inferiores (2 jugae) suboppositae, remotae, breviter petiolulatae, alterae alternae, plerumque triangulari-oblongae, acuminato-caudatae, basi valde acroscopicae, maximae 13 cm. longae, basi inaequilaterali 2.5–3.5 cm. latae, tenuiter herbaceae, plane pinnatae; pinnulae proximae, oblongae, apice rotundato-obtusae, basales superiores maximae, sessiles, 15–20 mm. longae, 6–8 mm. latae, pinnatifidae, lobis obtusis costulæ latere utroque ala ca. 1 mm. lata conjunctis, costulis et venis utrinque abunde laxe hirsutis; venae 2- vel 3(4)-jugae, obliquae, tenerae, simplices vel infimae rarissime furcatae; sori 1- vel 2-jugi, pusilli, mediales, sporangiis paucis; receptaculum minutum; paraphyses simplices, tenues, moniliformes, griseae, sporangia saltem aequantes.



UNITED STATES NATIONAL MUSEUM

Hemitelea decorata Maxon
Tallo 3 cm. diá., 1-3 m.

COLOMBIA. Departamento del Valle.
Costa del Pacífico, 1000 Yurumanguí: Venero, bosques,
5-10 m. alt.

N. 15727 J. C. MAXON coll. 20-20 July 1941

HEMITELEA DECORATA MAXON